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# TORREYA

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## GERMINATION OF CAT-TAIL SEEDS

BY E. L. MORRIS

Those who roam afield in the fall, especially along marshes, have often seen the masses of down and seeds which so freely scatter from the cat-tail heads at any shock. Nature's commonest way of scattering these seeds, of course, is the force of the wind, either in actually blowing the seeds from the head or so shaking the plants that the seeds are lost out. The point of this paragraph is, however, the sprouting of the seeds while still in position in the cat-tail head. About the time of seed ripening this particular head must have been broken off until it just touched the ground, and, in the unusually dry spring of this year, the seeds failed to germinate. The early summer rains raised the water level of the marsh sufficiently to keep the fruiting head entirely moistened and, with the direct sun pouring down, the conditions became proper for the seeds to sprout. As shown in the illustration, they sprouted from the surface of the head then uppermost. Looking closely, one sees that the axis of each seedling is bent into the characteristic elbow for protrusion from the seed coat. At the time of taking, a few of the elbows had straightened out and the primary root had begun to grow through the mass of bristles into the wet soil on which the head lay. At this time, each of the seedlings was probably only a day or two old, as is indicated by the nearly uniform size of all the seedlings, none seeming to have had an advantage over the others, and the fact that the most of them were still in the "elbow stage." This specimen was collected in a swamp beside the track a few rods west of the Valley Stream station of the Long Island Railroad. The measurements of these seedlings at the time of taking were 8-10 mm.

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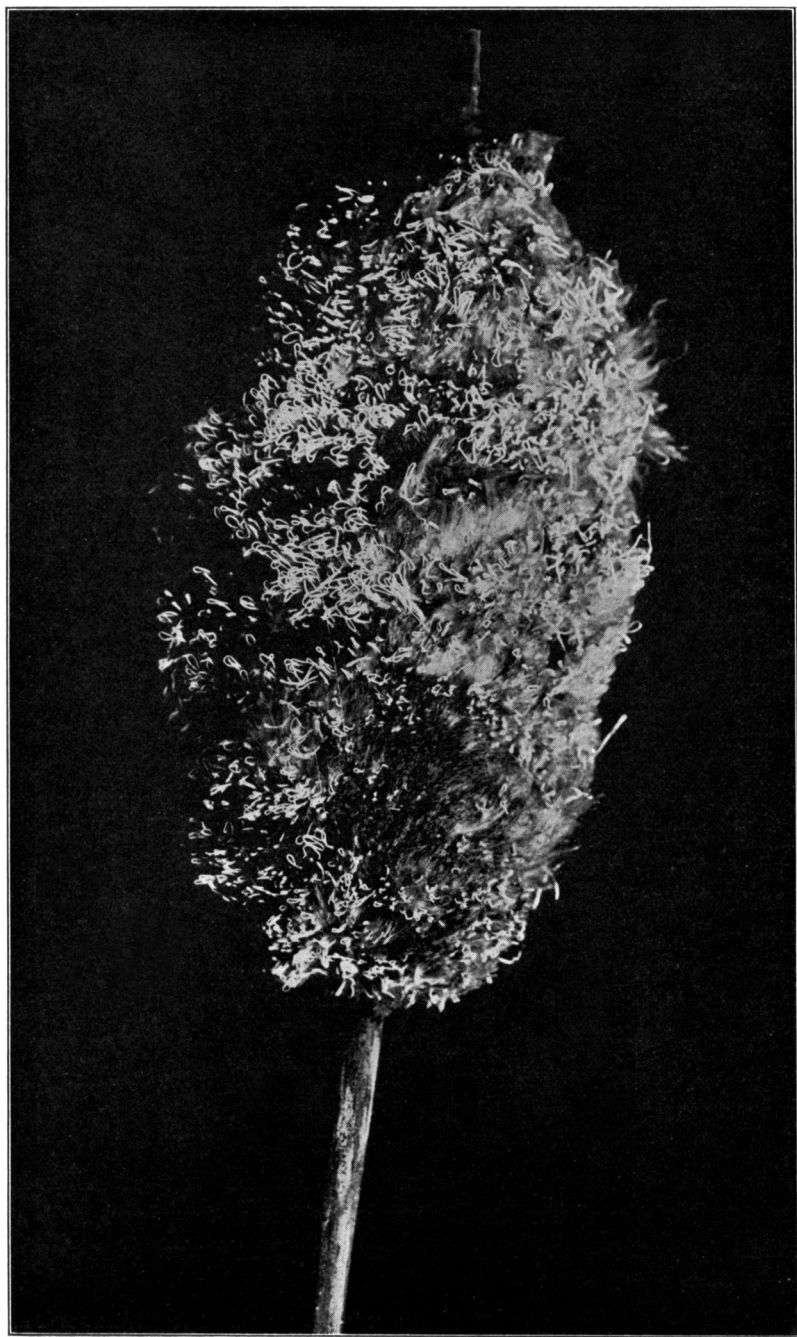


FIG. 1. Fallen Cat-tail, with the seeds germinating *in situ*. (*Typha angustifolia* L.)

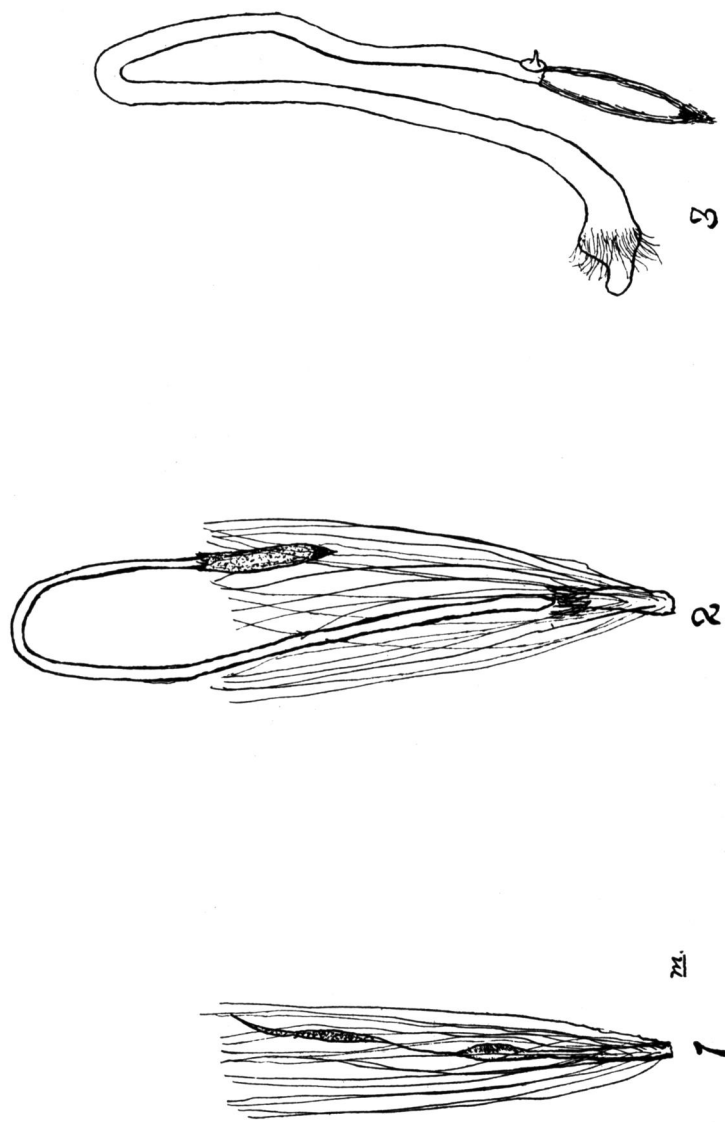


FIG. 2. 1. Unfertilized pistillate flower. 2. Germinated seed protruding from the macerating flower. 3. Seedling. (*Typha angustifolia* L.)

Corresponding germination of seeds, still within the ripe head of the parent plant, is not particularly common unless unusually favorable conditions for germination exist under which the heads are, through some abnormal circumstance, held captive. Such a case is shown by specimens in our collection of the heads of the common burdock.

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### THE FERTILIZATION OF THE EEL-GRASS

[The availability of the subjoined extract for TORREYA has been a matter of considerable speculation and not a little misgiving. It is one of thirty diminutive essays, all in a similar vein, and all highly charged with the imaginative poetry of the greatest of our modern mystic poets. The editor would have had little misgiving if the acceptance of the "botany" of this excerpt were as sure as its instant recognition as literature of a particularly charming style. Doubtless there are botanists who will question the writer, with a degree of vehemence measured by their antipathy to things of the imagination, when applied to their chosen science. But whatever of alleged "nature-faking" the unbeliever thinks he reads into the paragraphs below, it were well to remember that the writer, except for a trivial error, enclosed in square brackets, is perfectly correct as to his facts, and that it is only with his interpretation of them that one has any true quarrel. And it is precisely at these interpretative features of the essay that many botanists will become most excited. Not a few will immediately wax expansive over the perfectly irrelevant commonplace that plants do not "feel," nor "see," nor do a score of things that an imaginative writer may credit them with doing. All the while forgetting, that by the exercise of his imagination, a writer with a somewhat different perspective from that of the average botanist, may so change the point of view, so visualize the every-day, common thing, that the reader will never quite look at it with his customary indifference; never quite put it into the category of those in-